812341A Object Oriented Programming, spring 2018,

weekly assignment 6

The assignment shall be returned to Moodle not later than 27.5.2018 at 23.55

Int game of Hangman, the user tries to guess the hidden word. The computer chooses the word and keeps it hidden when the user tries to guess the letters of the word. The number of guesses is limited. If a user guesses all the letters of the word, he wins the game, otherwise the game wins the computer.

Implement the program's text-based user interface into the main program.

The words that can be used are derived from the WordList class, which reads the words from the file to the List structure at the WordList construction stage. The WordList constructor gets the name of the text file containing the words as a parameter. You can assume that the file is located in the same directory with a Hangman program. The words are in the file one line per word. You can assume that there are no special characters in the words. In words, uppercase and lower case letters are considered to be the same characters.

A class WordList should implement the following method:

public List <String> giveWords () - returns words of the wordlist.

The class Hangman keeps track of the situation in the game. The class Hangman has a constructor that gets the word list and the number of guesses as a parameter. In the Hangman constructor, the constructor also chooses randomly a word to be guessed from the word list.

There are at least the following methods in the class Hangman.

public boolean guess (Character char) - compares the character entered as a parameter to the word guessed. Add guess to the guess list. If the character is found in the word being guessed, the value true is returned. If character is not found, the number of guesses is reduced by one and returned value false.

public List <Character> guesses () - returns the guesses made as a List object.
public int guessesLeft () - returns the amount of remaining guesses.
public String word () - returns the hidden word.
public boolean theEnd () - indicates whether the game is over. The game ends if all the characters in the word that is intended are guessed.

Bonus (+20points)

You can get bonus points if you add the following methods to the WordList class:

public word of the word The words length length (int length) - returns a new word list with only the words whose length corresponds to the value of the variable given as a parameter.

public WordList theWordWhichLengthIs(String someString) - returns a new WordList object with only the words with the characters in the specified string at the given string. The given string is in the format _a_e_ (for example c**a**m**e**l) where the lines represent any character and letters of characters that must be in the word in the given place.